Tests and Testplans for the RCN

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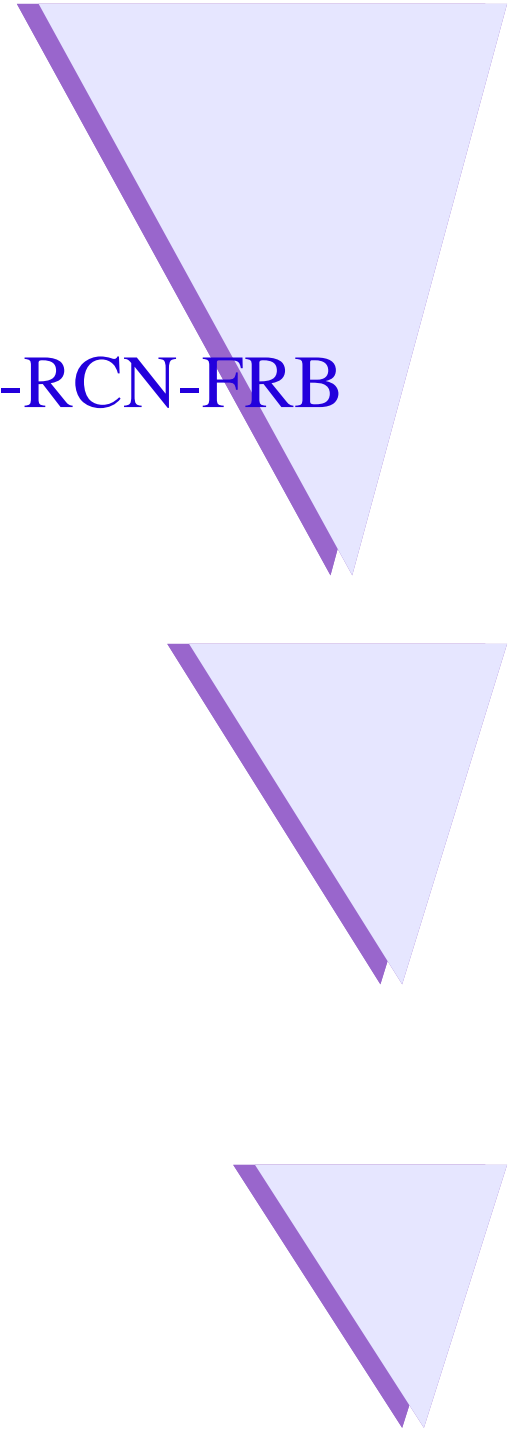
The Reliable Broadcast Library

- RCN needs (or, needed) reliable broadcast with low and predictable latency.

- First implemented in 1999, and reimplemented in 2001.

- The library has various reliability mechanisms and universal on Ethernet and IEEE1394.

- Benchmark test results have been reported in CMS meetings. (TriDAS, CPT, Weekly ...)

- Name: Fast and Reliable Broadcast library, libFRB

Software Test Plan (STP)

- A document describing software test methods and goals

- Part of MIL-STD-498
  - Set of process and documents to create and maintain concrete software

- The document format and contents are defined very strictly and in detail.

STP for libFRB

- Discussion for the integration of XDAQ-RCN-FRB
  - We need more formal process.
  - We need more formal documents.
- STP and tests for each step of;
  - 1st. libFRB
  - 2nd. ptFRB
  - 3rd. RCN in XDAQ

Tests

- Execution of test is automated. Evaluation is not.

- Packet losses is introduced by hand (in the software).

- Functionality tests
  - Recovery mechanisms from packet losses
  - Point-to-point / One-to-many

- Performance tests
  - Reliability
  - Scalability
  - Timing behavier
  - Parameter tuning

- http://home.fnal.gov/~ichiro/cmsevm/testplan.ps

Status and Plan

- Status
  - Functionality tests are almost done (5 out of 6).
  - Several bugs are found (irrelevant in the real system).
  - Performance tests and bug fixes in the next week.
- Plan
  - More words into the STP
  - Better version control
  - STP for ptFRB and tests
  - STP for RCN in XDAQ?